

**We claim:**

1. A handheld dual-mode mobile communication device, comprising:

a device housing having a front surface, a rear surface and a plurality of side

5 surfaces coupling the front surface to the rear surface;

a transceiver;

a display, mounted within the front surface of the device housing;

a QWERTY keyboard mounted below the display and within the front surface of  
the device housing; and

10 a microphone and a speaker, wherein the microphone is mounted below the  
display within the front surface of the device housing and the speaker is mounted above  
the display within the front surface of the device housing.

15 2. The handheld dual-mode mobile communication device of claim 1, wherein the front  
surface of the device housing is substantially flat.

3. The handheld dual-mode mobile communication device of claim 1, wherein the  
microphone is mounted within the front surface of the device housing below the  
keyboard.

20 4. The handheld dual-mode mobile communication device of claim 1, wherein the  
microphone is mounted within the front surface of the device housing below the display  
and above the keyboard.

5. The handheld dual-mode mobile communication device of claim 1, wherein the display and keyboard are each centred along a vertical reference line through the front surface of the device housing.

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6. The handheld dual-mode mobile communication device of claim 1, wherein the microphone is positioned offset from a vertical reference line through the front surface of the device housing.

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7. The handheld dual-mode mobile communication device of claim 1, wherein the display is rectangular.

8. The handheld dual-mode mobile communication device of claim 1, wherein the QWERTY keyboard includes a plurality of letter keys, a plurality of function keys and a space bar key.

9. The handheld dual-mode mobile communication device of claim 8, wherein the plurality of function keys include a backspace key, an enter key and a delete key.

10. The handheld dual-mode mobile communication device of claim 8, wherein the QWERTY keyboard further includes a NUM lock key and a CAP lock key, wherein the NUM lock key and the CAP lock key are positioned on either side of the space bar key.

11. The handheld dual-mode mobile communication device of claim 1, wherein the QWERTY keyboard includes a plurality of letter keys, wherein approximately half of the letter keys are positioned on a left hand side of the front surface of the device housing and approximately half of the letter keys are positioned on a right hand side of the front surface of the device housing.

12. The handheld dual-mode mobile communication device of claim 11, wherein the letter keys on the left hand side of the front surface are tilted at a negative angle with respect to a vertical reference line through the front surface of the device housing and the letter keys on the right hand side of the front surface are tilted at a positive angle with respect to the vertical reference line.

13. The handheld dual-mode mobile communication device of claim 12, wherein each key on the left hand side of the front surface is tilted at a common negative angle with respect to the vertical reference line and wherein each key on the right hand side of the front surface is tilted at a common positive angle with respect to the vertical reference line.

14. The handheld dual-mode mobile communication device of claim 13, wherein the common negative angle and the common positive angle are complementary angles.

15. The dual-mode mobile communication device of claim 12, wherein the letter keys are oblong shaped.

16. The handheld dual-mode mobile communication device of claim 15, wherein the oblong shaped letter keys are oval shaped.

5 17. The handheld dual-mode mobile communication device of claim 15, wherein the oblong shaped keys are rectangular shaped.

18. The handheld dual-mode mobile communication device of claim 15, wherein the oblong shaped keys are diamond shaped.

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19. The handheld dual-mode mobile communication device of claim 11, wherein the letter keys are organised into three rows of keys, wherein each key in each row of keys is horizontally aligned across the front surface of the device housing with the other keys in the row or keys.

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20. The handheld dual-mode mobile communication device of claim 11, wherein the letter keys are organised into three rows of keys, wherein the keys in each row of keys are configured along an arc across the front surface of the device housing.

20 21. The handheld dual-mode mobile communication device of claim 20, wherein the arc is convex.

22. The handheld dual-mode mobile communication device of claim 20, wherein the arc is concave.

23. The handheld dual-mode mobile communication device of claim 11, wherein the plurality of letter keys are symmetrically shaped.

24. The handheld dual-mode mobile communication device of claim 23, wherein the letter keys are square shaped.

25. The handheld dual-mode mobile communication device of claim 23, wherein the letter keys are circular shaped.

26. The handheld dual-mode mobile communication device of claim 1, further comprising a serial port mounted along one of the side surfaces of the device housing.

27. The handheld dual-mode mobile communication device of claim 1, further comprising at least one auxiliary input/output device mounted along one of the side surfaces of the device housing.

28. The handheld dual-mode mobile communication device of claim 27, wherein the auxiliary input/output device is a thumbwheel.

29. The handheld dual-mode mobile communication device of claim 27, wherein the auxiliary input/output device is an LED.

30. The handheld dual-mode mobile communication device of claim 1, further comprising:

a microprocessor, coupled to the transceiver, the display, the QWERTY keyboard, the microphone and the speaker, for controlling the operation of the device.

31. The handheld dual-mode mobile communication device of claim 30, further comprising:

a memory store for storing an operating system and one or more application programs that are executed by the microprocessor, the one or more application programs including at least a voice communication module and a data communication module.

32. The handheld dual-mode mobile communication device of claim 31, wherein the one or more application programs further include a personal information manager application program.

33. The handheld dual-mode mobile communication device of claim 1, wherein the transceiver includes a pair of transmitter/receivers, a first transmitter/receiver for sending and receiving voice communications and a second transmitter/receiver for sending and receiving data communications.

34. The handheld dual-mode mobile communication device of claim 1, wherein the transceiver includes at least one antenna, a transmitter and a receiver coupled to the at least one antenna, and a digital signal processor for communicating with the transmitter and the receiver.

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35. The handheld dual-mode mobile communication device of claim 1, further comprising a short range RF communications system.

36. The handheld dual-mode mobile communication device of claim 1, wherein the transceiver sends and receives voice communications to and from a wireless voice network and wherein the transceiver sends and receives data communications to and from a wireless data network.

37. The handheld dual-mode mobile communication device of claim 36, wherein the wireless voice network is the GSM network and the wireless data network is the GPRS network.

38. The handheld dual-mode mobile communication device of claim 31, wherein the memory store includes a file system for storing user information in the dual-mode device.

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39. A mobile communicator for voice and data communication, comprising:

- a device housing having a plurality of surfaces;
- a display mounted within a first surface of the plurality of surfaces;

a QWERTY keyboard mounted adjacent to the display and within the first surface; and

a microphone and a speaker, wherein the microphone is mounted within the first surface and the speaker is mounted within the first surface;

5 wherein the first surface has apertures therein to expose at least a portion of the display, QWERTY keyboard, microphone and speaker.

40. A mobile communicator of claim 39, wherein the first surface has one or more substantially flat portions representing a frontal surface of the housing and one or more  
10 curved portions depending from the one or more substantially flat portions representing one or more side surfaces of the housing.

41. A dual-mode mobile communication device, comprising:

a device housing having a front surface, a rear surface and a plurality of side  
15 surfaces coupling the front surface to the rear surface;

a transceiver for sending and receiving voice and data communications;

a display, mounted within the front surface of the device housing, for displaying information to a user of the device regarding voice and data communications;

a QWERTY keyboard mounted below the display and within the front surface of  
20 the device housing, for generating data communications; and

a microphone and a speaker for generating voice communications, wherein the microphone is mounted below the display within the front surface of the device housing



and the speaker is mounted above the display within the front surface of the device housing.

42. A handheld mobile communication device assembly, comprising:

5           a first device housing section;

          a second device housing section; and

          a printed circuit board (PCB),

          wherein the first and second device housing sections cooperate to couple together to form a handheld mobile communication device housing enclosing the PCB therein;

10       and,

          wherein the device housing includes a plurality of apertures at least partially exposing:

          a display mounted on the PCB;

          a QWERTY keyboard mounted on the PCB; and

15       a microphone and a speaker.

43. A handheld mobile communication device assembly of claim 42, further including a transmitter, a receiver and antenna within the device housing.

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